Claims

1. An optical recording medium comprising:

a support substrate;

an optical transmitting layer; and

a first dielectric layer, a noble metal oxide layer, a second dielectric layer, a light absorption layer, and a third dielectric layer, all of which are interposed, in this sequence from said optical transmitting layer, between said optical transmitting layer and said support substrate,

wherein a thickness of said support substrate ranges from 0.6 mm to 2.0 mm; a thickness of said optical transmitting layer ranges from 10 μm to 200 μm; a thickness of said noble metal oxide layer ranges from 2 nm to 50 nm; a thickness of said second dielectric layer ranges from 5 nm to 100 nm; a thickness of said light absorption layer ranges from 5 nm to 100 nm; and a thickness of said third dielectric layer ranges from 10 nm to 140 nm.

2. The optical recording medium according to claim 1, wherein said noble metal oxide layer includes a platinum oxide (PtOx).

3. The optical recording medium according to claim 1 or 2, further comprising a reflection layer interposed between said support substrate and said third dielectric layer.

4. The optical recording medium according to claim 3, wherein a thickness of said reflection layer ranges from 5 nm to 200 nm.

5. An optical recording medium comprising:

a support substrate whose thickness ranges from 0.6 mm to 2.0 mm;

an optical transmitting layer whose thickness ranges from 10 μm to 200 μm; and

a first dielectric layer, a noble metal oxide layer, a second dielectric layer, a light absorption layer, a third dielectric layer, and a reflection layer, all of which are interposed,

in this sequence from said optical transmitting layer, between said optical transmitting layer and said support substrate.

6. A method for manufacturing an optical recording medium comprising:

a first process of forming, on a support substrate, a reflection layer, a third dielectric layer, a light absorption layer, a second dielectric layer, a noble metal oxide layer, and a first dielectric layer, in this sequence; and

a second process of forming an optical transmitting layer on said first dielectric layer.

7. The method for manufacturing an optical recording medium according to claim 6, wherein processing pertaining to said first process is performed according to a vapor-phase deposition method, and processing pertaining to said second process is performed according to a spin-coating method.

8. A data recording method for recording data on said above-described optical recording medium defined in any one of claims 1 to 5, by exposing the optical-transmissive layer to a laser beam, wherein,

when the wavelength of said laser beam is taken as λ and a numerical aperture of said objective lens used for focusing the laser beam is taken as NA, a record mark train including a record mark having a length of $\lambda/4NA$ or less is recorded by setting λ/NA to a value of 640 nm or less.

9. A data reproduction method for reproducing data by exposing to a laser beam said optical recording medium defined in any one of claims 1 to 5 by way of said optical transmitting layer, wherein, when the wavelength of the laser beam is taken as λ and the numerical aperture of the objective lens for focusing the laser beam is taken as NA, λ/NA is set to a value of 640 nm or less to thus reproduce data from a record mark train having a length of $\lambda/4NA$.